Exhibit 2
Share of Opioid-Related Deaths Attributable to Prescription Opioids Based on Dr. Keyes's Analysis
Lake and Trumbull Counties, 2019

Measure		Lake County	Trumbull County
Total Number of Opioid-Related Deaths per Dr. Keyes	[A]	68	89
Number of Opioid-Related Deaths Directly Attributable to Prescription Opioids per Dr. Keyes	[B]	18	13
Number of Opioid-Related Deaths Indirectly Attributable to Prescription Opioids per Dr. Keyes	[C]	27	41
Percent of Opioid-Related Deaths Directly Attributable to Prescription Opioids	[D] = [B] / [A]	26.5%	14.6%
Percent of Opioid-Related Deaths Indirectly Attributable to Prescription Opioids	[E] = [C] / [A]	39.7%	46.1%
Percent of Opioid-Related Deaths Attributable to Prescription Opioids	**[D] + [E]**	**66.2%**	**60.7%**

Notes:
[1] Dr. Keyes calculates and shows the total number of opioid-related deaths, the number of deaths directly attributable to prescription opioids, and the number of deaths indirectly attributable to prescription opioids in Keyes Report, Figure 14.
[2] Dr. Keyes uses CDC Wonder data to identify opioid overdose deaths. Within the data, she further identifies opioid deaths that list prescription opioids as a contributing cause on the death certificate to estimate opioid deaths directly attributed to prescription opioids. Finally, she applies her estimate of 53.4 percent to the number of opioid deaths attributed to non-prescription opioids (i.e. the number of opioid deaths that were not attributable to prescription opioids) to estimate the number of opioid deaths attributed to non-prescription opioids, indirectly attributable to prescription opioids.
[3] 53.4 percent is the average proportion of NSDUH respondent heroin users who report non-medical prescription opioid use at an age equal to or prior to the age they began using heroin in Lake and Trumbull Counties between 2006 and 2014.

Source:
[1] Expert Report of Katherine Keyes and Supporting Materials, April 16, 2021.